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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,705	03/04/2004	Archer C.C. Chen	CHEN407	3387

1444 7590 03/09/2005

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EXAMINER

PASSANITI, SEBASTIANO

ART UNIT PAPER NUMBER

3711

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,705

Applicant(s)

CHEN, ARCHER C.C.

Examiner

Sebastiano Passaniti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on see detailed Office action.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

This Office action is responsive to communication received 03/04/2004 – application papers filed.

Claims 1-17 are pending.

Following is an action on the MERITS:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheng ('903). The patent to Cheng discloses the applicant's inventive concept and includes a head body (28) having a recess (22) at a front side, a soft metal layer (32) and a thin face plate (30) disposed over the soft metal layer. A plurality of slots (i.e., grooves) are formed on the front striking face (Figure 9). Note that Cheng indicates that welding or brazing may be used to secure face member (30) to the softer rear member (32), as detailed in col. 4, lines 14-18. Thus, with the need for welding, a solder layer must inherently be provided on the back side of the face member. As to claim 2, the soft metal (32) is clearly mounted in the recess (22). As to claim 5, the face plate (30) is made of a hard material such as titanium (col. 3, lines 31-34) and is thereby considered to be a durable metal plate.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4 and 6-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng ('903) in view of Chen ('408) and Kusano. Cheng differs from the claimed invention in that Cheng does not disclose the specific copper material for the soft layer, does not indicate the material and dimensions of the solder layers and does not detail the dimensions (i.e., thickness) of the soft metal layer and thin face plate. Specific to claims 8, 9, 10, 11, 12, 13 and 14 and the specifics of the solder layers and solder material, it is clear that the skilled artisan, motivated to steadfastly secure the soft metal layer and thin face plate within the recess, would have found it obvious to use any suitable mechanical means through which the metal layer and face plate would have been fixedly secured. For example, the teaching reference to Chen indicates that a solder layer (30) is used to secure insert (20) within recess (11). For instance, Kusano discloses that explosion-welding is a convenient and effective way of bonding dissimilar materials for the face portion of a golf club head. See col. 6, line 61 through col. 7, line 6 in Kusano. Alternatively, Kusano details a plethora of related bonding operations including rolling-bonding method, friction welding, diffusion junction welding TIG welding, plasma welding and conventional brazing operations to join portions of the head. See col. 5, lines 55-67, col. 7, lines 7-16 and col. 17, line 11-20 in Kusano. The welding operation in Chen and the conventional brazing technique in Kusano make use of a specific "solder layer". Clearly, the applicant has not invented the specific material used for the solder layer. Moreover, it is clear that the skilled artisan would have

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realized how to dimension the solder layers based upon the size of the recess and the amount of solder necessary to create complete coverage between the various mating pieces. Of further note is the fact that the claimed dimensions for the solder thickness are not deemed critical, as the applicant has simply disclosed that these dimensions are preferred, without detailing any unobvious or unexpected results. In view of the patents to Chen and Kusano and the above reasoning, it would have been obvious to modify the device in the cited art reference to Cheng by using any suitable solder material and sizing the solder layer as needed, the motivation being to help prevent separation of the face plate and soft metal layer placed under the face plate. As to claims 3, 4, 6, 7, 15 and 16, the selection of a material such as copper for the soft metal layer and the selection of a specific material for the face such as the claimed maraging steel would have been obvious in view of the description in Cheng in col. 3, lines 31-47 detailing that the rear member should be made of a relatively soft material as compared to the harder material of the face plate. Clearly, the applicant has not invented the claimed materials. Instead, the applicant is taking advantage of the natural properties of known materials. The selection of known materials to exploit the natural properties thereof has been determined to be obvious to one of ordinary skill in the art. See *In re Hopkins* 145 USPQ 140. Based upon the size of the recess and other limiting factors such as requirements for the weight of the head, the skilled artisan would have found it obvious to size the soft metal layer and thin face plate as needed. Moreover, the claimed dimensions are not deemed critical, since the applicant has simply disclosed that these dimensions are preferred, without detailing any unobvious or unexpected results.

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Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng ('903) in view of Chen ('045). To have further modified the device in the cited art reference to Cheng by providing an annular solder layer as a supplemental means for fixing the inserts into the recess would have been obvious in view of the patent to Chen ('045), wherein it is clearly shown that the insert (30) is held in its associated recess within the main body through the use of both a solder layer (45) and an annular solder layer (50). See col. 2, lines 27-65 in Chen.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Buck and Mahaffey show laminated inserts, of interest. Okumoto shows a brazing operation, of interest. Note the face inserts in each of Gilbert, Nagasaki and Viollaz.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sebastiano Passaniti whose telephone number is 571-272-4413. The examiner can normally be reached on Mon-Fri (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on 571-272-4415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sebastiano Passaniti
Primary Examiner
Art Unit 3711

S.Passaniti/sp
March 4, 2005